Claims

WHAT IS CLAIMED IS:

1. A system, comprising:

a computer for:

according to a first model of an operation of circuitry, generating a first set of estimates of the operation in response to a set of conditions, including a first estimate of the operation in response to a first condition;

according to a second model of the operation, generating a second set of estimates of the operation in response to the first condition and the first set;

in response to a comparison between the first estimate and the second set, selecting a subset of the first set; and

according to the second model, generating an estimate of the operation in response to a second condition and the selected subset.

2. The system of Claim 1 wherein the first model includes a circuit simulator.

3. The system of Claim 1 wherein the second model includes a characteristic equation.

4. The system of Claim 3 wherein the second model includes a characterization table that includes the characteristic equation.

5. The system of Claim 3 wherein the second model is a static timing analysis model including the characteristic equation.

6. The system of Claim 3 wherein the computer is for generating the second set by:

determining respective sets of constant elements of the characteristic equation in response to subsets of the first set; and

according to the characteristic equation, in response to the first condition, generating the second set including respective estimates of the operation in response to the sets of constant elements.

7. The system of Claim 6 wherein the computer is for selecting the selected subset from among the subsets of the first set in response to the comparison, the comparison being a comparison between the first estimate and the estimates of the second set.

8. The system of Claim 7 wherein:

the subsets of the first set are respectively associated with the sets of constant elements, so the selected subset of the first set is associated with a particular set of constant elements;

the estimates of the second set are respectively associated with the sets of constant elements, so a particular estimate of the second set is associated with the particular set of constant elements; and

among the estimates of the second set, the particular estimate is closest to the first estimate.

9. The system of Claim 1 wherein the operation is a response time of the circuitry.

10. The system of Claim 1 wherein the operation is a propagation delay of the circuitry.

11. The system of Claim 1 wherein the conditions include at least two types of conditions.

12. The system of Claim 1 wherein the conditions include at least three types of conditions.

13. The system of Claim 1 wherein the conditions include capacitive loadings of the circuitry.

14. The system of Claim 1 wherein the conditions include input transition times of the circuitry.

15. The system of Claim 14 wherein the conditions include at least two types of input transition times of the circuitry.

16. The system of Claim 1 wherein the circuitry is integrated circuitry.

17. A method, comprising:

with a first computer-implemented model of an operation of circuitry, generating a first set of estimates of the operation in response to a set of conditions, including a first estimate of the operation in response to a first condition;

with a second computer-implemented model of the operation, generating a second set of estimates of the operation in response to the first condition and the first set;

in response to a comparison between the first estimate and the second set, selecting a subset of the first set; and

with the second computer-implemented model, generating an estimate of the operation in response to a second condition and the selected subset.

18. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the first computer-implemented model including a circuit simulator.

19. The method of Claim 17 wherein the generating of the second set of estimates comprises:

with the second computer-implemented model of the operation, generating the second set of estimates, the second computer-implemented model including a characteristic equation.

20. The method of Claim 20 wherein the generating of the second set of estimates comprises:

with the second computer-implemented model of the operation, generating the second set of estimates, the second computer-implemented model including a characterization table that includes the characteristic equation.

21. The method of Claim 20 wherein the generating of the second set of estimates comprises:

with the second computer-implemented model of the operation, generating the second set of estimates, the second computer-implemented model being a static timing analysis model including the characteristic equation.

22. The method of Claim 20 wherein the generating of the second set of estimates comprises:

determining respective sets of constant elements of the characteristic equation in response to subsets of the first set; and

according to the characteristic equation, in response to the first condition, generating the second set including respective estimates of the operation in response to the sets of constant elements.

23. The method of Claim 22 wherein the selecting of the subset comprises:

selecting the selected subset from among the subsets of the first set in response to the comparison, the comparison being a comparison between the first estimate and the estimates of the second set.

24. The method of Claim 23 wherein the selecting of the subset comprises:

selecting the selected subset from among the subsets of the first set in response to the comparison,

the subsets of the first set being respectively associated with the sets of constant elements, so the selected subset of the first set is associated with a particular set of constant elements;

the estimates of the second set being respectively associated with the sets of constant elements, so a particular estimate of the second set is associated with the particular set of constant elements; and

among the estimates of the second set, the particular estimate being closest to the first estimate.

25. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the operation being a response time of the circuitry.

26. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the operation being a propagation delay of the circuitry.

27. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the conditions including at least two types of conditions.

28. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the conditions including at least three types of conditions.

29. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the conditions including capacitive loadings of the circuitry.

30. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the conditions including input transition times of the circuitry.

31. The method of Claim 30 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the conditions including at least two types of input transition times of the circuitry.

32. The method of Claim 17 wherein the generating of the first set of estimates comprises:

with the first computer-implemented model of the operation, generating the first set of estimates of the operation in response to the set of conditions, the circuitry being integrated circuitry.

33. A computer program product, comprising:

a computer application processable by a computer for causing the computer to:

according to a first model of an operation of circuitry, generate a first set of estimates of the operation in response to a set of conditions, including a first estimate of the operation in response to a first condition;

according to a second model of the operation, generate a second set of estimates of the operation in response to the first condition and the first set;

in response to a comparison between the first estimate and the second set, select a subset of the first set; and

according to the second model, generate an estimate of the operation in response to a second condition and the selected subset; and

apparatus from which the computer application is accessible by the computer.

34. The computer program product of Claim 33 wherein the first model includes a circuit simulator.

35. The computer program product of Claim 33 wherein the second model includes a characteristic equation.

36. The computer program product of Claim 35 wherein the second model includes a characterization table that includes the characteristic equation.

37. The computer program product of Claim 35 wherein the second model is a static timing analysis model including the characteristic equation.

38. The computer program product of Claim 35 wherein the computer application is processable by the computer for causing the computer to generate the second set by:

determining respective sets of constant elements of the characteristic equation in response to subsets of the first set; and

according to the characteristic equation, in response to the first condition, generating the second set including respective estimates of the operation in response to the sets of constant elements.

39. The computer program product of Claim 38 wherein the computer application is processable by the computer for causing the computer to select the selected subset from among the subsets of the first set in response to the comparison, the comparison being a comparison between the first estimate and the estimates of the second set.

40. The computer program product of Claim 39 wherein:

the subsets of the first set are respectively associated with the sets of constant elements, so the selected subset of the first set is associated with a particular set of constant elements;

the estimates of the second set are respectively associated with the sets of constant elements, so a particular estimate of the second set is associated with the particular set of constant elements; and

among the estimates of the second set, the particular estimate is closest to the first estimate.

41. The computer program product of Claim 33 wherein the operation is a response time of the circuitry.

42. The computer program product of Claim 33 wherein the operation is a propagation delay of the circuitry.

43. The computer program product of Claim 33 wherein the conditions include at least two types of conditions.

44. The computer program product of Claim 33 wherein the conditions include at least three types of conditions.

45. The computer program product of Claim 33 wherein the conditions include capacitive loadings of the circuitry.

46. The computer program product of Claim 33 wherein the conditions include input transition times of the circuitry.

47. The computer program product of Claim 46 wherein the conditions include at least two types of input transition times of the circuitry.

48. The computer program product of Claim 33 wherein the circuitry is integrated circuitry.